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International
IOR Rectifier

PD - 20988 rev. A

FD120W06A5B

FRED Die in Wafer Form

- 100% Tested at Probe ①
- Available in Tape and Reel,
  Chip Pack, and Sawn on Film ② (upon request)

600V
V_F = 3.2 V
(max.)
5" Wafer

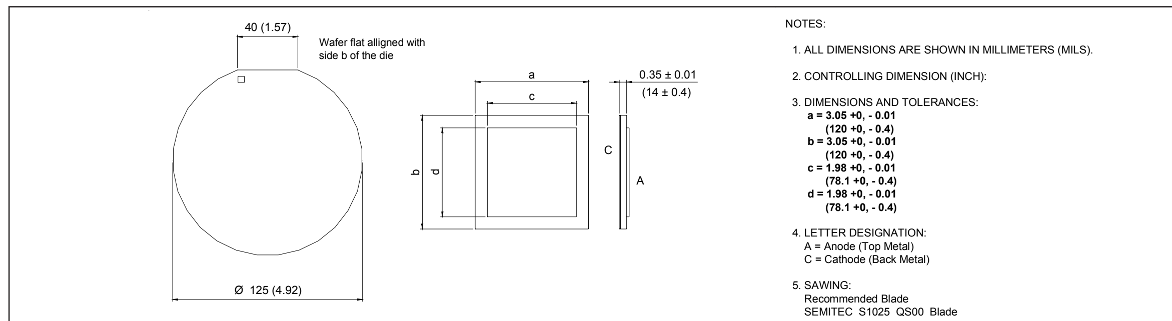
Electrical Characteristics @ T_J = 25°C (unless otherwise specified)

Parameter	Description	Min	Typ	Max	Test Conditions
V_{FM}	Maximum Forward Voltage	——	——	3.2V	T_J = 25°C, I_F = 15A
V_{RRM}	Minimum Reverse Breakdown Voltage	600V	——	——	T_J = 25°C, I_{RRM} = 100μA
I_{RM}	Max. Reverse Leakage Current	——	——	50μA	T_J = 25°C, V_{RRM} = 600V
t_{rr}	Typ. Reverse Recovery Time	——	18ns	——	I_F = 1A, di/dt = 100A/μs, V_R = 30V
		——	20ns	——	I_F = 15A, di/dt = 100A/μs, V_R = 30V
Q_{rr}	Typ. Reverse Recovery Charge	——	350nC	——	T_J = 125°C, I_F = 15A, di/dt = 80A/μs, V_R = 390V

Mechanical Data

Nominal Back Metal Composition, Thickness:	Cr-Ni-Ag (1kA-2kA-3kA)
Nominal Front Metal Composition, Thickness:	99%Al, 1%Si (3mm)
Dimensions:	0.120" x 0.120" (see drawing)
Wafer Diameter:	125 mm
Wafer Thickness:	14 mils
Scribe Line Width	90 ±10 μm
Reject Ink Dot Size	0.25 mm Diameter Minimum
Recommended Storage Environment:	Store in original container, in dessicated nitrogen, with no contamination
Recommended Die Attach Conditions:	For optimum electrical results, die attach temperature should not exceed 300 °C
Reference Packaged Part	15ETX06 Series

Die Outline



Note:
① The above data sheet is based on IR sample testing under certain predetermined and assumed conditions, and is provided for illustration purposes only. Customers are encouraged to perform testing in actual proposed packaged and use conditions. IR die products are tested using IR-based quality assurance procedures and are manufactured using IR's established processes. Programs for customer-specified testing are available upon request. IR has experienced assembly yields of generally 95% or greater for individual die; however, customer's results may vary. Estimates such as those described and set forth in this data sheet for semiconductor die will vary depending on a number of packaging, handling, use and other factors. Sold die may not perform on an equivalent basis to standard package products and are therefore offered with a limited warranty as described in IR's applicable standard terms and conditions of sale. All IR die sales are subject to IR's applicable standard terms and conditions of sale, which are available upon request.

② Part number shown is for die in waveform. Contact factory for these other options.

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Additional Testing and Screening

For Customers requiring product supplied as Known Good Die (KGD) or requiring specific die level testing, please contact your local IR Sales.

Shipping

Three shipping options are offered as standard.

- Un-sawn wafer
- Die in waffle pack
- Die on film

Tape and Reel is also available for some products. Please consult your local IR sales office or email DieSales@irf.com for additional information.
Please specify your required shipping option when requesting prices and ordering Die product. If not specified, Un-sawn wafer will be assumed.

Packaging

Device	Description	Minimum Order Quantity Die in sale Package
FD120W06A5**B**	Inked Probed Unsawn Wafer (Wafer in Box)	900
FD120W06A5**R**	Probed Die in Tape & Reel	n/a contact Factory
FD120W06A5**P**	Probed Die in Waffle Pack	n/a contact Factory
FD120W06A5**F**	Inked Probed Sawn Wafer on Film	n/a contact Factory

Handling

- Product must be handled only at ESD safe workstations. Standard ESD precautions and safe work environments are as defined in MIL-HDBK-263.
- Product must be handled only in a class 10,000 or better-designated clean room environment.
- Singulated die are not to be handled with tweezers. A vacuum wand with a non-metallic ESD protected tip should be used.

Wafer/Die Storage

- Proper storage conditions are necessary to prevent product contamination and/or degradation after shipment.
- Un-sawn wafers and singulated die can be stored for up to 12 months when in the original sealed packaging at room temperature (45% +/- 15% RH controlled environment).
- Un-sawn wafers and singulated die that have been opened can be stored when returned to their containers and placed in a Nitrogen purged cabinet, at room temperature (45% +/- 15% RH controlled environment).
- Note: To reduce the risk of contamination or degradation, it is recommended that product not being used in the assembly process be returned to their original containers and resealed with a vacuum seal process.
- Sawn wafers on a film frame are intended for immediate use and have a limited shelf life.
- Die in Surf Tape type carrier tape are intended for immediate use and have a limited shelf life. This is primarily due to the nature of the adhesive tape used to hold the product in the carrier tape cavity. This product can be stored for up to 30 days. This applies whether or not the material has remained in its original sealed container.

Further Information

For further information please contact your local IR Sales office or email your enquiry to DieSales@irf.com

Data and specification subjects to change without notice.
This product has been designed and qualified for Industrial Level.
Qualification standards can be found on IR's Web site.

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